

From wang!elf.wang.com!ucsd.edu!info-hams-relay Sat Mar 23 02:42:17 1991 remote  
from tospot  
Received: by tospot (1.63/waf)  
via UUCP; Sat, 23 Mar 91 09:46:48 EST  
for lee  
Received: from somewhere by elf.wang.com id aa04177; Sat, 23 Mar 91 2:42:11 GMT  
Received: from ucsd.edu by relay1.UU.NET with SMTP  
(5.61/UUNET-shadow-mx) id AA28945; Fri, 22 Mar 91 19:16:20 -0500  
Received: by ucsd.edu; id AA04062  
sendmail 5.64/UCSD-2.1-sun  
Fri, 22 Mar 91 13:07:04 -0800 for brian  
Received: by ucsd.edu; id AA04017  
sendmail 5.64/UCSD-2.1-sun  
Fri, 22 Mar 91 13:06:55 -0800 for /usr/lib/sendmail -oc -odb -oQ/var/spool/  
lqueue -oi -finfo-hams-relay info-hams-list  
Message-Id: <9103222106.AA04017@ucsd.edu>  
Date: Fri, 22 Mar 91 13:06:54 PST  
From: Info-Hams Mailing List and Newsgroup <info-hams-relay@ucsd.edu>  
Reply-To: Info-Hams@ucsd.edu  
Subject: Info-Hams Digest V91 #219  
To: Info-Hams@ucsd.edu

Info-Hams Digest                        Fri, 22 Mar 91                        Volume 91 : Issue 219

Today's Topics:

- Antenna Question
- Anybody out there ever fixed a microwave oven
- ARRL 16: 80M NOVICE CHANGE
- Balloon Antennas
- Chinese Ham Ticket
- FCC spectrum allocation
- Foothill Flea Market
- Ham interference on Cable TV?
- Hints & Kinks for taking the General code test
- Icom CI V interface
- Looking for High Voltage Capacitors
- LSB vs USB ad infinitum
- No Code issue makes Scientific American
- QST, 73 or CQ Index
- reading odd components
- Some gossip about no-code tech teaching materials
- Straight keys vs. iambic
- TS-140S to a ^680S ?
- UHF (440) Repeater Amplifiers
- upgrade from no-code tech
- WANTED: FSTV/ATV Video Tapes
- what does COSMAC mean, as in 1802

When is the contest????

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>  
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

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Date: 14 Mar 91 02:42:32 GMT  
From: vax5.cit.cornell.edu!inuy@cu-arpa.cs.cornell.edu  
Subject: Antenna Question  
To: info-hams@ucsd.edu

I have an antenna question for all of you who are good at that type  
of thing. I have been looking over different types of antenna, and  
I think I want to build a yagi beam. I have figured out all the  
dimensions of it, but there is one problem. The book has the  
impedance listed as 75 ohms, but my (a VHF scanner) receiver has a  
50 ohm input impedance. Will this make much of a difference to a  
receiver? If it will degrade the performance of the antenna, is  
there a simple way to transform the 75 ohm impedance from the  
antenna to 50 ohms? Also, while on the subject of home built  
antenna, where can one get the nice light weight aluminum tubing  
the commercial antenna are built out of? Or does it matter? I  
have actually been thinking of trying to suspend #12 wire on  
insulators between eyehooks on a frame of 2x2's. I think tubing  
would look a lot better, and weigh a lot less though. Any  
recommendations?

Please, if you can, email your replies, as I do not regularly read  
this message area. Thanks!

--Matthew Kleinmann

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Date: 18 Mar 91 19:22:08 GMT  
From: zaphod.mps.ohio-state.edu!pacific.mps.ohio-state.edu!linac@sdd.hp.com,  
Subject: Anybody out there ever fixed a microwave oven  
To: info-hams@ucsd.edu

My recomendation is \*DON'T MESS WITH YOUR MICROWAVE\* unless you are

interested in finding out what cataracts are like. Stray microwave energy is very dangerous to your eyes!!!! And from the questions asked in this post it looks like the writer does not understand this!

If any reader doesn't know what cataracts are, do some research! It is blindness, or partial blindness, due to a change in the clear lens of the eye. In other words, microwave can cook your eys, just like the white of an egg turns from clear to opaque!!

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Date: 16 Mar 91 04:24:39 GMT  
From: swrinde!zaphod.mps.ohio-state.edu!tut.cis.ohio-state.edu!n8emr!gws@ucsd.edu  
Subject: ARRL 16: 80M NOVICE CHANGE  
To: info-hams@ucsd.edu

=====

| Relayed from packet radio via |  
| N8EMR's Ham BBS, 614-895-2553 1200/2400/9600/V.32/PEP/MNP5 |  
=====

ZCZC AG81  
QST DE W1AW  
ARRL BULLETIN 16 ARLB016  
FROM ARRL HEADQUARTERS NEWINGTON CT  
MARCH 15, 1991  
RELAYED BY KB8NW/OBS & BARF-80 BBS  
TO ALL RADIO AMATEURS

Advisory to Novice and Technician Class licensees. On January 10 the FCC announced a change in its rules to move the 80 meter Novice band from 3700 through 3750 KHz downward to 3675 through 3725 KHz. The change takes effect March 16 at 1201 AM local time.

--  
Gary W. Sanders (gws@n8emr or ...!osu-cis!n8emr!gws), 72277,1325  
N8EMR @ W8CQK (ip addr) 44.70.0.1 [Ohio APRS address coordinator]  
HAM BBS (1200/2400/9600/V.32/PEP/MNP=L5) 614-895-2553  
Voice: 614-895-2552 (eves/weekends)

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Date: 15 Mar 91 05:21:44 GMT  
From: swrinde!cs.utexas.edu!oakhill!nddsun1!waters@ucsd.edu  
Subject: Balloon Antennas  
To: info-hams@ucsd.edu

In article <CMM.0.90.2.668977304.rdixon@magnus.acs.ohio-state.edu>

Bob\_Dixon@osu.edu writes:

>If it is windy and there are objects around, don't even try to launch.  
>Trees and other antennas are deadly to balloons.

Need I add that POWER lines of ANY sort shhould be a LOOONG way from the balloon/antenna/guy. I would suggest 2-3X the antenna length as a minimum.

>Electrically, the balloon antennas work like gangbusters. On 160 meters >you can dominate the band. You will need good ground radials and an >antenna tuner located right at the base. Good luck!

>

I have never done that, but it sounds like GREAT fun. How about a 1/2W or 5/8 Wave (on 160 :-) ) to cut down the ground currents (= ground losses)

Lets see that would "only" be 240Ft.

--

\*Mike Waters AA4MW/7 waters@nddsun1.sps.mot.com \*

We ARE as gods and might as well get good at it.

-- Whole Earth Catalog

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Date: 22 Mar 91 05:28:00 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: Chinese Ham Ticket  
To: info-hams@ucsd.edu

I have a Chinese student that is interested in ham radio. He is interested in talking with his parents in mainland China. Can his parents go to an ham station probably a club and talk to him while he is in this country. How do his parents go about getting a license in China and can they own a station other than a club station.

agengcc@unx2.ucc.okstate.edu (Gordon Couger)  
Thanks in avance

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Date: 13 Mar 91 22:52:44 GMT  
From: gatech!prism!mailer.cc.fsu.edu!sun13!murray@ucsd.edu  
Subject: FCC spectrum allocation  
To: info-hams@ucsd.edu

In article <13309@helios.TAMU.EDU> msw1633@summa.tamu.edu writes:

>Does anyone have (on line) or know where I might be able to get a copy of the  
>FCC radio spectrum allocations (including all services and bands etc.)? I know  
>I can get this by ordering the first volume of CFR 47 from the area gov't  
>documents center, but it would be nice to be able to get this electronically.

Was there anything like this in the FAQ's? If not, this would probably  
be a worthwhile thing to add to the intermediate FAQ - both the government  
source and the ftp source, if one exists.

>Mark S. Whitsitt, N5RJF                    Texas A&M University, Dept of Biochemistry  
>Bitnet: MSW1633@TAMSIGMA                 College Station, Tx. 77843-2128  
>Internet: MSW1633@SIGMA.TAMU.EDU         (409) 845-0832  
> "You can't throw darts when your empty, man!" -- another Schadelism

--  
Disclaimer: Yeah, right, like you really believe I run this place.

John R. Murray | "Memory serves  
murray@vsjrm.scri.fsu.edu | wise commanders."  
Supercomputer Research Inst.| - Tz'u-hsi, 638 AD

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Date: 13 Mar 91 19:37:38 GMT  
From: hpl-opus!hpnmrla!alanb@hplabs.hpl.hp.com  
Subject: Foothill Flea Market  
To: info-hams@ucsd.edu

In rec.radio.amateur.misc, wws@raphael.cray.com (Walter Spector) writes:

>In article <1991Mar10.041753.8918@informix.com>, randall@informix.com  
>(Randall Rhea) writes:  
>> Well, opening day 1991 for the second-Saturday-of-the-month Foothill  
>> College flea markets has come and gone. This is a much anticipated event  
>> in SF Bay Area hamdom.  
>>  
>> I found this one to be disappointing. There was a whole lot of overpriced  
>> junk, even more than usual. Although it's supposed to be a ham flea  
>> market, most of the stuff that was being sold had nothing to do with ham  
>> radio. [more on low quality of junk deleted...]

...

>I note that there are going to be monthly swap meets in Livermore.  
>Did anyone go to the first one? I wonder if it is any better?

In my (biased) opinion, the Sonoma County Radio Amateurs (SCRA) flea  
market in Sebastopol, while smaller than Foothills, is much more

ham-related. If you can wait until September (28th), and don't mind an hour's drive north of the Golden Gate, you might give it a try.

AL N1AL

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Date: 15 Mar 91 03:17:38 GMT  
From: swrinde!zaphod.mps.ohio-state.edu!sample.eng.ohio-state.edu!phonon!  
rlong@ucsd.edu  
Subject: Ham interference on Cable TV?  
To: info-hams@ucsd.edu

Re: Ham Interference on Cable TV

I sent an email to the original poster but decided to post

on the net as well. No one asked whether he had cw or voice interference. How does he know it is a ham?

Could it be that he is hearing the new cw identification that satellite uplinkers are now required to transmit? This was discussed on the net recently. I assume that it is supposed to be subaudible but I hear it often and if I had not read it on the net I would have assumed it was ham interference since I have not been able to copy it. It is just loud enough to be annoying but not loud enough to read (at least for me.))

Just a thought. Ron W8GUS.

--  
Ronald K. Long  
Ohio State Univ EE Dept., 2015 Neil Ave., Columbus, OH 43210  
rlong@phonon.eng.ohio-state.edu

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Date: 20 Mar 91 16:04:32 GMT  
From: ogicse!plains!kkim@ucsd.edu  
Subject: Hints & Kinks for taking the General code test  
To: info-hams@ucsd.edu

In article <1075@wells.UUCP> k3tx@wells.UUCP (Dave Heller) writes:  
:In article <1370@gargoyle.uchicago.edu>, hayward@gargoyle.uchicago.edu (Peter Hayward) writes:  
:> The ARRL VEC has announced that it will be going to multiple choice  
:> over the next few months.  
:> --  
:> Peter B. Hayward University of Maine WX9T  
:

:116. The question pools aren't hard to memorize.  
:  
:  
:K3TX  
:Who passed in front of an unsmiling but FAIR FCC examiner.

i wonder if the code test is from the question pools...  
that's funny. has it been made public?

thanks.

k kim

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Date: 15 Mar 91 17:57:52 GMT  
From: sdd.hp.com!zaphod.mps.ohio-state.edu!think.com!linus!linus!mwunix.mitre.org!  
m21198@ucsd.edu  
Subject: Icom CI V interface  
To: info-hams@ucsd.edu

I just received the answer to my query. I am posting it as I have also received several requests and other comments.

Hi John,

I just received a technical description and control codes for the CI-V interface on the my IC-735. I called Icom customer service(206-454-7619) and asked for parts. They sent it to me free, however they have a \$10 more extensive manual covering all models. I think this has all one needs for the 735. I hoping to connect this to my MAC SE. The voltage levels need to be shifted to 0 and 5v for the 735.

Let me know how you make out, maybe exchange ideas?

73  
Tom  
WA2CUE

Thanks to Tom,(housten@demon.siemens.com)  
and to all others who replied. BTW, there is some KA9Q c code to handle some of the I/O posted on wuarchive.wustl.com.

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Date: 21 Mar 91 17:01:46 GMT  
From: hpfcs0!hpfc0c!perry@hplabs.hpl.hp.com  
Subject: Looking for High Voltage Capacitors  
To: info-hams@ucsd.edu

Re: 5pF/4KV

Try a local large electrojunk emporium (i.e. not Radio Shack). I've seen these capacitors manufactured by Sprague. You might also check a TV repair shop. If nothing else, I have a new 10pF/6KV cap in my junkbox that I'll probably never use...

Perry Scott  
KF0CA

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Date: 20 Mar 91 17:01:02 GMT

From: sdd.hp.com!zaphod.mps.ohio-state.edu!magnus.acs.ohio-state.edu!tut.cis.ohio-state.edu!abvax!iccgcc!macmillan@ucsd.edu  
Subject: LSB vs USB ad infinitum  
To: info-hams@ucsd.edu

In the never ending saga of LSB-USB I may have missed this item, but just in case....

The dividing line between common use of LSB and USB seems to be 9 MHz. If you were home brewing an SSB exciter you could get a two band transmitter or tranceiver with a 9 MHz USB IF and a 5.0-5.5 MHz VFO.

Add the two and USB appears from 14.0-14.5 MHz. Subtract and you will get 4.0-3.5 MHz. The subtraction process has also inverted the sideband and it is now LSB.

Simplicity and two DX bands in one box.

73 de WA8ZHN / Jim MacMILLAN / PRB-WON

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Date: 16 Mar 91 08:01:52 GMT

From: swrinde!cs.utexas.edu!convex!texsun!letni!rwsys!kf5iw!k5qwb!lrk@ucsd.edu  
Subject: No Code issue makes Scientific American  
To: info-hams@ucsd.edu

edh@sqa.dsg.ti.com (ed humphries (ASOC)) writes:

> My oldest son (14) just passed no-code Tech. He's been studying code too,  
> and will continue (still young HI). But, he's grown up with computers and

Just for the record, N5RSE passed his novice and tech before he turned seven. I was 16 when I decided to get my novice and it took

a week to learn 5 wpm ( two days to build the code practice osc ).  
I've always felt 5 wpm was slow enough to look up in the book.  
Makes it hard for me to believe this is an obstacle for anyone  
who is really interested.

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73, lrk@k5qwb.UUCP lrk%k5qwb@kf5iw.UUCP  
Lyn Kennedy utacfd.utarl.edu!letni!rwsys!kf5iw!k5qwb!lrk  
K5QWB @ N5LDD.#NTX.TX.US  
P.O. Box 5133, Ovilla, TX, USA 75154

----- "We have met the enemy and they are us." Pogo -----

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Date: 18 Mar 91 16:15:07 GMT  
From: usc!samsung!rex!ukma!s.ms.uky.edu!andreas@ucsd.edu  
Subject: QST, 73 or CQ Index  
To: info-hams@ucsd.edu

A couple of years ago, I saw several PCFile database files indexing the leading ham radio magazines. These were on a ham BBS. At the time, I saw no need for them. Since then I have kicked myself several times for not downloading the information.

Does anyone know where such a computerized index might be located? I know a paper version for QST is available, but I don't need anything that extensive.

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Harold G. Peach, Jr. Internet: hgpeach@ca.uky.edu  
252 Ag. Engineering Bldg., U.Ky. Packet Radio: N4FLZ@KF4NB.KY.USA.NA  
Lexington, KY 40546-0276 Phone: (606) 257-3335

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Date: 20 Mar 91 23:04:16 GMT  
From: sdd.hp.com!zaphod.mps.ohio-state.edu!rpi!uwm.edu!src.honeywell.com!  
msi.umn.edu!noc.MR.NET!uc!shamash!timbuk!dadams@ucsd.edu  
Subject: reading odd components  
To: info-hams@ucsd.edu

Given a spool of unlabeled enameled magnet wire can someone come up with a good algorithm for determining awg size? I.e. if I wrap 100 turns around a pencil and the coil on the pencil is 5 mm long then the awg is x? (what would x be?)

Is there some nicer way?

David Adams  
dadams@cray.com

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Date: 17 Mar 91 18:21:51 GMT  
From: sdd.hp.com!spool.mu.edu!snorkelwacker.mit.edu!stanford.edu!agate!  
usenet@ucsd.edu  
Subject: Some gossip about no-code tech teaching materials  
To: info-hams@ucsd.edu

Hiya Folks: I went down to the local ham store to get copies of the novice/tech books for some pals. And lo-and-behold... they were sold out. (Except for a couple of tune-in-the-worlds with code tapes 8). I asked the owner about this. He says he called the ARRL and they have sold out the old style books. They are frantically working on a single novice/tech book to be out in late April. (The working title is: "The First Book".) The owner's guess was that the new material would debut at the Dayton Hamvention. Anyway, I thought you might be interested in this gossip. Does this single the impending surge of codeless techs we've been fearing 8)

Will Marchant                   Center for Extreme Ultraviolet Astrophysics  
marchant@ssl.berkeley.edu     University of California  
KC6ROL                         Berkeley, CA 94720 USA

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Date: 21 Mar 91 16:38:39 GMT  
From: otter.hpl.hp.com!hptload!hpinddr!richv@hplabs.hpl.hp.com  
Subject: Straight keys vs. iambic  
To: info-hams@ucsd.edu

Does anyone have a feel for the percentage of hams sending manually vs. using some kind of electronic assistance? Do people still use straight keys or are "morse machines" and built-in keyers the way to go? I suppose sending with an iambic keyer is a totally different skill.

Richv

PS I hope I'm using the term "iambic" correctly.

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Date: 22 Mar 91 01:08:22 GMT  
From: usc!wuarchive!swbatl!ken@ucsd.edu  
Subject: TS-140S to a ^680S ?  
To: info-hams@ucsd.edu

Has anyone out there successfully converted a Kenwood TS-140S into a TS-680S ? The sales brochure shows a lot of stenciled but empty spaces on the 140's filter unit. There must be some reason they left the VOX capability out of the 680. I'm seriously thinking about the 140 as a second HF rig. Any comments -good or bad?

Ken - WB0QNA

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Date: 19 Mar 91 20:50:43 GMT  
From: agate!apple!usc!sdd.hp.com!caen!math.lsa.umich.edu!spsd4360a.erim.org!  
hideg@ucbvax.berkeley.edu  
Subject: UHF (440) Repeater Amplifiers  
To: info-hams@ucsd.edu

Hello all.

I am in the market for a 440MHz band repeater amplifier.  
I currently have an Icom RP-3010 repeater that's putting  
out about 10W. I'm interested in a 100W amplifier. I have been  
looking at some like the Mirage D-1010NR and D3010NR.  
I also have some literature on Microwave Modules, Falcon,  
and rfconcepts. I'm sure there is more, especially "commercial"  
stuff.

I'm looking for recommendations and experiences with  
various products.

I may even try to build one, if I had a good solid design.

Any help/advice/thoughts would be appreciated.

Thanks/pax

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Steve Hideg N8HSC

hideg@spsd4360a.erim.org

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Date: 21 Mar 91 17:07:40 GMT  
From: hpfcs0!hpfcdc!perry@hplabs.hpl.hp.com

Subject: upgrade from no-code tech  
To: info-hams@ucsd.edu

The 10 wpm wall.

Yup, I hit it too. Some people don't. I hit another wall at 18 wpm. I worked through that wall by going two forward and one back, ratcheting my way up to higher speed. Don't get discouraged. Don't try for perfect copy. That will come later. Expect to spend 15 minutes a day for four months, if you're as dim as I am when it comes to code.

Perry Scott  
KF0CA

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Date: 21 Mar 91 20:29:28 GMT  
From: fs7.ece.cmu.edu!o.gp.cs.cmu.edu!andrew.cmu.edu!ps2x+@sei.cmu.edu  
Subject: WANTED: FSTV/ATV Video Tapes  
To: info-hams@ucsd.edu

I'm doing a promotional/informational video about amateur television, and need videotape footage of interesting ATV things. This includes Balloons, RC Vehicles, Space Shuttle, whatever.  
I'm shooting for a mid april completion date, so any help soon would be appreciated.

Pete Skelly - KB7GUD  
ps2x@andrew.cmu.edu

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Date: 22 Mar 91 05:03:40 GMT  
From: swrindle!zaphod.mps.ohio-state.edu!rpi!bu.edu!dartvax!  
Christopher.C.Kagy@ucsd.edu  
Subject: what does COSMAC mean, as in 1802  
To: info-hams@ucsd.edu

In article <1991Mar21.063134.4747@ariel.unm.edu>  
ollie@hydra.unm.edu (Ollie) writes:

> Hi. I'm playing with a COSMAC 1802 chip and wondered why they are called  
> COSMAC. Are all 1802s rad-hard, and does this have anything to do with it?

It actually stands for COmplementary Silicon Metal-oxide Conductor I believe.

-Chris

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Date: 22 Mar 91 02:06:01 GMT  
From: swrinde!elroy.jpl.nasa.gov!usc!wuarchive!uwm.edu!linac!att!att!cbnewsk!  
wheatley@ucsd.edu  
Subject: When is the contest????  
To: info-hams@ucsd.edu

I believe the wording is "the last full weekend of march"....thus easter weekend. If CQ says march 30 and 31 I would take their word for it...they do, after all, sponsor the contest. Sounds like ARRL/QST missed a beat on this one?

--  
Steven Wheatley AT&T Consumer Products (201) 581-3195

....!att!inuxz!wheatley

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Date: 14 Mar 91 13:11:28 GMT  
From: sdd.hp.com!spool.mu.edu!news.cs.indiana.edu!cs.widener.edu!  
netnews.upenn.edu!platypus!bill@ucsd.edu  
To: info-hams@ucsd.edu

References <1991Mar5.125838.28106@lonex.radc.af.mil>, <10608@dog.ee.lbl.gov>, <4822@eastapps.East.Sun.COM>  
Subject : Re: Frequently Asked Questions for Amateur Radio

In article <4822@eastapps.East.Sun.COM>, jimv@hienergy.East.Sun.COM (Jim Vienneau - Sun Microsystems) writes:

>  
> But you really should  
> take a listen from 26.965 to 27.990 (yes the CB band legally ends at 27.405)  
> sometime, especially on Friday and Saturday nights. Just make sure your kids  
> are not in the room!

But you should take a listen to 14.313 (yes it is in a ham band) sometime, especially on Friday and Saturday nights. Just make sure your kids are not in the room!

So what's your point??

bill KB3YV

"We have met the enemy and he is us." (from Walt Kelly's Pogo)

--  
Bill Gunshannon | If this statement wasn't here,  
bill@platypus.uofs.edu | This space would be left intentionally blank  
bill@tuatara.uofs.edu | #include <std.disclaimer.h>

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Date: 16 Mar 91 20:00:38 GMT  
From: swrinde!zaphod.mps.ohio-state.edu!rpi!dali.cs.montana.edu!milton!sumax!  
polari@mzenier@ucsd.edu  
To: info-hams@ucsd.edu

References <64364@eerie.acsu.Buffalo.EDU>, <917@nddsun1.sps.mot.com>, <1991Mar13.205647.24031@cunixf.cc.columbia.edu>  
Subject : Re: non-11m 'CB' bands

>>In article <64364@eerie.acsu.Buffalo.EDU> v127p9xg@ubvmsd.cc.buffalo.edu writes:  
>>I have recently found out that frequencies in the 72-75Mhz and ~462-467Mhz  
>>ranges are considered "CB".

Warning. 75 Mhz is one of those frequencies that "thou shalt not screw with".  
(Airport outer limit beacon ?). Putting anything on the air on such a  
critical frequency is looking to get stomped on by both the FCC and FAA. Hard.

If you want to know who can do what on what frequency. Part 2 of Title 47  
Code of Federal Regulation has over a hundred pages of spectrum allocation  
charts giving the ITU, US government, and civilian usages of the spectrum.

Mark Zenier markz@ssc.uucp mzenier@polari.uucp

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Date: 21 Mar 91 21:06:01 GMT  
From: zardoz@ucsd.edu  
To: info-hams@ucsd.edu

References <26530001@hpldsla.sid.hp.com>, <410032@hpqmlob.sqf.hp.com>, <1991Mar20.181837.17763@cbnewsh.att.com>  
Subject : Re: KNWD TS-430S problem

I had to replace the pills in my TS-430 to fix the intermittent QRP  
problem that had developed. The 10 meter band was worst case.  
I used Motorola MRF-454? I will look inside and get the correct #'s  
if anybody is interested. Its been working okay now for over a year.  
You do have to re-adjust the bias pot when replacing the finals.

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End of Info-Hams Digest

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